AMENDMENTS TO THE CLAIMS

1-49. (Cancelled)

Please add the following new claims:

50. (New) An *in vitro* process of enabling meiotic recombination of partially homologous DNA sequences having up to 30% of base mismatches in yeast cells, said process comprising:

genetically or physiologically manipulating yeast cells *in vitro*, said yeast cells comprising partially homologous DNA sequences having up to 30% of base mismatches, to render defective the enzymatic mismatch repair system of said yeast cells, and

culturing said manipulated yeast cells *in vitro* to effect meiotic recombination of said partially homologous DNA sequences.

51. (New) The process according to claim 50, wherein said yeast cells are obtained by mixing *in vitro* (a) a first group of yeast cells comprising a first DNA sequence with (b) a second group of yeast cells comprising a second DNA sequence which is partially homologous to said first DNA sequence and which has up to 30% base mismatches with said first DNA sequence, to form said yeast cells which are diploid.

52. (New) The process according to claim 50, wherein said enzymatic mismatch repair system of said yeast cells are rendered defective by genetically or physiologically manipulating said yeast cells to delete or make defective at least one homologue of *mut*S protein and/or at least one homologue of *mut*L protein.

53. (New) The process according to claim 52, wherein said enzymatic mismatch repair system of said yeast cells are rendered defective by genetically or physiologically manipulating said yeast cells to delete or make defective at least one eukaryotic homologue of *mut*S protein.

54. (New) The process according to claim 50, wherein said yeast cells are germ-line cells.

55. (New) An *in vitro* process of making hybrid yeast cells, said process comprising:

mixing *in vitro* (a) a first group of yeast cells (i) comprising a first DNA sequence and (ii) having a defective enzymatic mismatch repair system which is made defective by genetic or physiological manipulation, with (b) a second group of yeast cells (i) comprising a second DNA sequence which is partially homologous to said first DNA sequence and which has up to 30% base mismatches with said first DNA sequence, and (ii) having a defective enzymatic mismatch repair system which is made defective by genetic or physiological manipulation, to form diploid yeast cells,

culturing said diploid yeast cells *in vitro* to effect meiotic recombination of said partially homologous first and second DNA sequences, to make hybrid yeast cells, and

recovering said hybrid yeast cells.

56. (New) An *in vitro* process of making hybrid yeast cells, said process comprising:

genetically or physiologically manipulating *in vitro* yeast cells to render defective the enzymatic mismatch repair system of said yeast cells, said yeast cells comprising partially homologous DNA sequences having up to 30% of base mismatches, and

culturing said manipulated yeast cells *in vitro* to effect meiotic recombination of said partially homologous DNA sequences of said yeast cells, to make hybrid yeast cells, and

recovering said hybrid yeast cells.

57. (New) An *in vitro* process for obtaining hybrid DNA sequences, which comprises:

making said hybrid yeast cells according to claim 56, and

isolating hybrid DNA sequences of said hybrid yeast cells.

58. (New) The process according to claim 57, wherein said hybrid DNA sequences comprise a gene.

59. (New) An *in vitro* process of obtaining proteins encoded by hybrid DNA sequences comprising:

obtaining said hybrid DNA sequences according to the process of claim 57, and

expressing proteins encoded by said hybrid DNA sequences.

60. (New) The process according to claim 59, wherein said hybrid DNA sequences comprise a gene.

61. (New) The process according to claim 56, wherein said enzymatic mismatch repair system of said yeast cells are rendered defective by genetically or physiologically manipulating said yeast cells to delete or make defective at least one homologue of *mut*S protein and/or at least one homologue of *mut*L protein.

62. (New) The process according to claim 61, wherein said enzymatic mismatch repair system of said yeast cells are rendered defective by genetically or physiologically manipulating said yeast cells to delete or make defective at least one eukaryotic homologue of *mut*S protein.

63. (New) The process according to claim 56, wherein said yeast cells are germ-line cells.